


## Installation and Start-Up Instructions

**NOTE:** Read the entire instruction manual before starting the installation. Refer to Split-System Heat Pump Installation and Start-Up Instructions (included in this packet).

### SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause personal injury or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloth for brazing operations. Have fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions attached to the unit. Consult local building codes and the National Electrical Code (NEC) for special installation requirements.

Recognize safety information. This is the safety-alert symbol . When you see this symbol on the unit or in instructions and manuals, be alert to the potential for personal injury.

Understand the signal word DANGER, WARNING, or CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards that **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **would** result in minor personal injury or product and property damage.

### WARNING

Before installing or servicing system, always turn off main power to system. There may be more than 1 disconnect switch. Turn off accessory heater power if applicable. Electrical shock can cause personal injury or death.

### INSTALLATION

#### Step 1—Mounting Pad

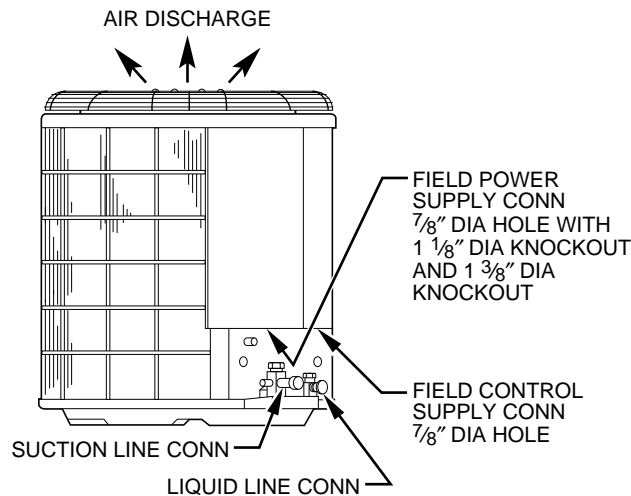
Refer to Table 1 for mounting pad dimensions.

#### Step 2—Refrigerant Tubing

Refer to Table 2 for proper refrigerant tube diameters.

#### Step 3—Mechanical Connection (38YCN Model)

1. Remove plastic retainer holding outdoor piston and piston retainer in the liquid service valve. Connect and tighten the liquid service valve adapter to the valve body prior to assembling ferrule/lock nut. (See Fig. 2.)
2. Cut tubing to the correct length, deburr and size as necessary, making sure tube ends are square. If a large burr is evident, the ID and OD must be deburred to allow the tube to bottom in valve.



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**Fig. 1—Unit Connections**

**Table 1—Mounting Pad Dimensions**

UNIT SIZE	MINIMUM DIMENSIONS (IN.)
018-030	22-1/2 x 22-1/2
036-060	30 x 30

**Table 2—Refrigerant Connections and Recommended Liquid and Vapor Tube Diameters (In.)**

UNIT SIZE	LIQUID		VAPOR	
	Connect Diameter	Tube Diameter	Connect Diameter	Tube Diameter
018, 024	3/8	3/8	5/8	5/8
030, 036	3/8	3/8	3/4	3/4
042, 048	3/8	3/8	7/8	7/8
060	3/8	3/8	7/8	1-1/8

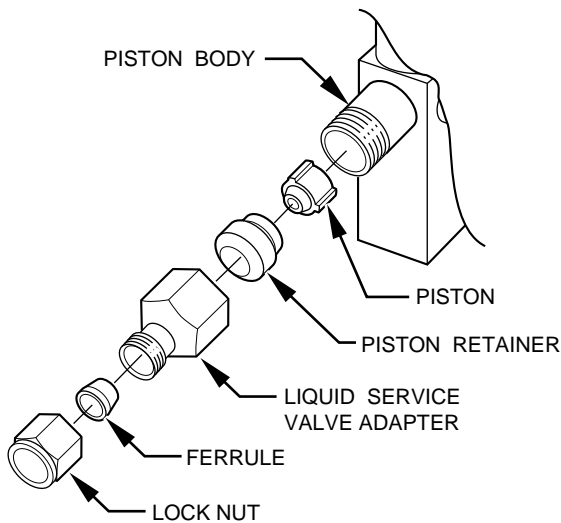
Note: Tube diameters are for lengths up to 50 ft. For tubing lengths greater than 50 ft, consult your local distributor.

3. Remove lock nut and ferrule from plastic bag taped to service panel. (See Fig. 3.) Remove the lock nut and ferrule from liquid service valve adapter. (See Fig. 2.)

### CAUTION

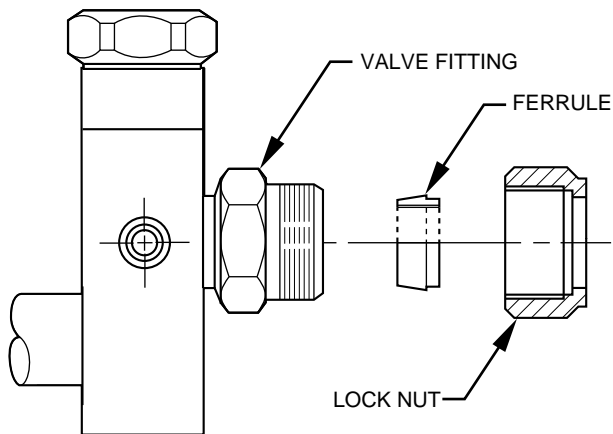
If undersized, damaged, or elliptically shaped tubing is used when making connection, leaks could result.

4. Slide the lock nut and ferrule onto each tube. (See Fig. 4.)
5. Apply a few drops of refrigerant oil to the ferrule and valve threads and adapter threads to reduce assembly torque and assist sealing.
6. Insert tube end into the service valve or adapter until it bottoms.



**Fig. 2—Liquid Service Valve Mechanical Fitting Assembly (38YCN Model)**

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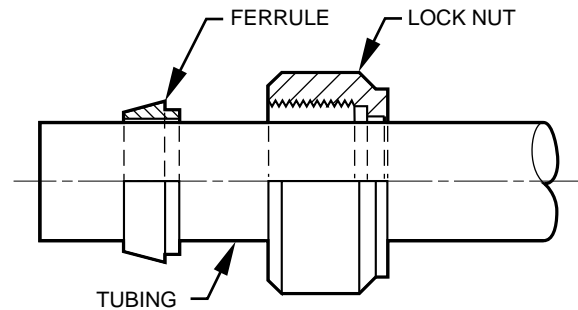


**Fig. 3—Suction Service Valve with Mechanical Adapter (38YCN Model)**

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7. Push the ferrule into place and tighten the nut until an increase in torque is felt.
8. Mark the nut and tube and tighten 1-1/2 turns from the mark. (See Fig. 5.) Keep the tube bottomed in the valve and adapter while tightening nut.

**NOTE:** A backup wrench on the hex part of the suction valve fitting is required while tightening.



**Fig. 4—Lock Nut/Ferrule Positioning**

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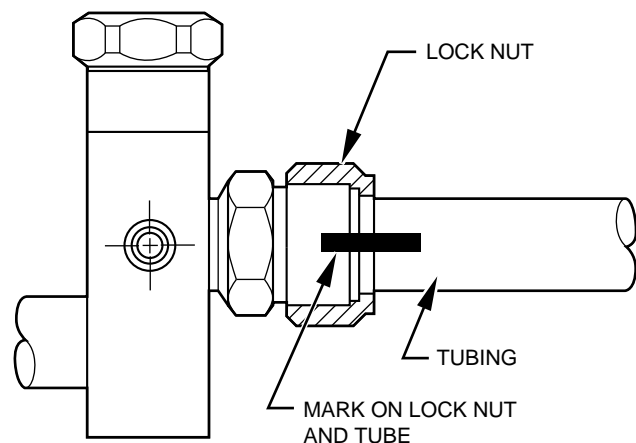
### ⚠ CAUTION

The tube end must stay bottomed in the service valve during final assembly to ensure proper seating, sealing, and rigidity.

### MECHANICAL FITTING REPAIR

To replace damaged ferrule or tubing, proceed as follows.

1. Attach gages to service valves.
2. Close liquid service valve and operate unit in cooling mode to pump refrigerant charge into condenser coil.
3. When suction pressure reaches 5 psig, shut unit off. Do not operate unit in a vacuum.
4. Close suction service valve and recover refrigerant in tubing.
5. Back-off locknut and ferrule onto tube.
6. Remove damaged part of tubing using tubing cutter. Repeat installation procedure previously outlined using new ferrule.
7. Evacuate tubing set and indoor coil. Check for leaks.
8. Open service valves or recharge unit. Check refrigerant charge.



**Fig. 5—Proper Marking of Valve Assembly**

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